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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,203	07/29/2003	Thomas Thisted	10062.210-US	1994
	7590 05/14/200 NORTH AMERICA,	EXAMINER		
500 FIFTH AVENUE SUITE 1600 NEW YORK, NY 10110			PROUTY, REBECCA E	
			ART UNIT	PAPER NUMBER
·			1652	
			MAIL DATE	DELIVERY MODE
			05/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, PROM THE MAILING DATE OF THIS COMMUNICATION. - Established for mapty is evaluated to the provision of 30° FR1 1-180°, in the ovent however, may a reply be trinky filled. - If NO period for regly is epocified above, the neximum statutory point of will expire SIX (8) MONTHS from the mating case of this communication. - Failur to require within the sid or centred period for region will be provided by the form the most many statutory point of the side of this communication. - Failur to require within the side of secretal period for region will be provided by the Office lister than three months what the mating date of this communication. even if timely filled, may reduce any search plantic. - Failur to require within the side of the communication of the communication and the provided by the communication of the side of the communication. - Failur to require within the side of the communication. - Failur to require within the side of the communication. - Failur to require within the practice under Exparte Quayle, 1935 C.D. 11, 453 O.G. 213. - Status - Status - Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Exparte Quayle, 1935 C.D. 11, 453 O.G. 213. - Disposition of Claims - Application of Claims - Application of Claims - Application of Size and Siz		Application No.	Applicant(s)				
Rebecca E. Prouty 1692 - The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. - If NO pured for reply is appointed above, the meanimum statement of the communication. - If NO pured for reply is appointed above, the meanimum statement of the communication. - If NO pured for reply is appointed above, the meanimum statement of the communication. - If NO pured for reply is appointed above, the meanimum statement of the communication. - If NO pured for reply is appointed above, the meanimum statement of the communication, are reply be stilled than statement of the communication. - If NO pured for reply is appointed to the thing of the communication. - If NO pured for reply is appointed above, the meaning date of the communication, are reply be stilled to the statement of the communication. - If NO pured for reply is appointed above, the meaning date of the communication, are reply be stilled from the resulting date of the communication. - If NO pured for reply is appointed to the communication. - If NO pured for reply is appointed to the communication. - If NO pured for reply is appointed to the communication. - If NO pured for reply is appointed to the communication. - If NO pured for reply is appointed to the communication. - If NO pured for reply is appointed to the communication. - If NO pured for reply is appointed to the statement of the communication. - If NO pured for reply is appointed to the meaning date of the replication. - If NO pured for reply is appointed to the meaning date of the meaning date of the meaning date of the replication of the pured to the communication. - If NO pured for reply is appointed to the pured to t	Office Action Commence	10/630,203	THISTED ET AL.				
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A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. - Extraorisms of time range to available under the provisions of 37 CFR 1.35(a). This execut, however, may a may be timely filled. - Extraorisms of time range to available under the provisions of 37 CFR 1.35(a). This execution was not timely filled or may be available under the provisions of 37 CFR 1.35(a). The overall however, may a may be timely filled or the provision of		_					
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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/4/08 has been entered.

Claims 1-40, 42, and 50 have been canceled. Claims 41, 43-49, and newly presented claims 51-57 are at issue and are present for examination.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 51-57, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution of at a position corresponding to position 170 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- II. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90%

homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 49 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- III. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 60 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- IV. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 104 in SEQ ID NO:8, and wherein the variant

Application/Control Number: 10/630,203

Art Unit: 1652

has alpha-amylase activity, classified in class 435, subclass 202.

Page 4

- V. Claims 41, 43-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 132 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- VI. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 161 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- VII. Claims 41, 43-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position

corresponding to position 170 and a substitution at a position corresponding to position 176 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- VIII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 179 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- IX. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 180 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- X. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 181 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XI. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 183 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position

170 and a substitution at a position corresponding to position 200 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- XIII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 203 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XIV. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 204 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- XV. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 207 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XVI. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 212 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XVII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position

170 and a substitution at a position corresponding to position 237 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- XVIII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 239 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XIX. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 250 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- XX. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 280 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XXI. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 298 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XXII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position

170 and a substitution at a position corresponding to position 318 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- XXIII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 374 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XXIV. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 385 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- XXV. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 393 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XXVI. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 402 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XXVII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position

170 and a substitution at a position corresponding to position 406 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- XXVIII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 427 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XXIX. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 430 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

- XXX. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 440 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XXXI. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 444 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.
- XXXII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position

170 and a substitution at a position corresponding to position 447 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

XXXIII. Claims 41, 43, 44, 46-49, and 51-56, drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and a substitution at a position corresponding to position 482 in SEQ ID NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202.

Remaining Groups: Claims 41, 43-49, and 51-56 drawn to a variant of an alpha-amylase, wherein the variant comprises an amino acid sequence having at least 90% homology to SEQ ID NO.8 and consisting of a substitution at a position corresponding to position 170 and two or more additional positions selected from the group of those corresponding to positions 49, 60, 104, 132, 161, 176, 179, 180, 181, 183, 200, 203, 204, 207, 212, 237, 239, 250, 280, 298, 318, 374, 385, 393, 402, 406, 427, 430, 440, 444 447 and 482 in SEQ ID

NO:8, and wherein the variant has alpha-amylase activity, classified in class 435, subclass 202. Note in view of the extremely large number of distinct inventions in each of these groups the examiner has not attempted to list each group individually. If applicants elect any of these groups they should specifically delineate the combination of particular substitutions which must be present in the variant.

The inventions are distinct, each from the other because of the following reasons:

The inventions of all groups are directed to related protein variants. The related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed each have a materially different design as each one has a different structure encompassing distinct mutations which each can produce distinct effects on the overall structure and function of the protein. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious

Application/Control Number: 10/630,203

Art Unit: 1652

variants. Furthermore, each group will require a separate search as disclosure of a mutation at one position of a basic protein structure in no way makes obvious or suggests mutations at different positions of the same protein such that art teaching a variant of one group will not be applicable to variants of the remaining groups.

Page 17

Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification:
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca E. Prouty whose telephone number is 571-272-0937. The examiner can normally be reached on Tuesday-Friday from 8 AM to 5 PM. The examiner can also be reached on alternate Mondays

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nashaat Nashed, can be reached at (571) 272-0934. The fax phone number for this Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

Application/Control Number: 10/630,203 Page 20

Art Unit: 1652

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Rebecca Prouty/ Primary Examiner Art Unit 1652